

Liquid phenotypic drug susceptibility testing

BacTEC™ MGIT™ 960 System

The BACTEC MGIT 960 System is a 4-13 day qualitative test. The test is based on growth of the *M. tuberculosis* isolate in a drug-containing tube compared to a drug-free tube (Growth Control). The BBL™ MGIT™ 7 ml Mycobacteria Growth Indicator Tube is a tube containing a modified Middlebrook 7H9 Broth which supports the growth and detection of mycobacteria. The MGIT tube contains a fluorescent compound embedded in silicone on the bottom of 16 x 100 mm round bottom tube. The fluorescent compound is sensitive to the presence of oxygen dissolved in the broth. The initial concentration of dissolved oxygen quenches the emission from the compound, and the little fluorescence can be detected. Later, actively growing and respiring microorganisms consume the oxygen that allows the compound to fluoresce. The BACTEC MGIT 960 instrument continually monitors tubes for increased fluorescence. Analysis of fluorescence in the drug-containing tube compared to the fluorescence of the Growth Control tube is used by the instrument to determine susceptibility results. The BACTEC MGIT 960 instrument automatically interprets these results, and reports a susceptible or resistant result.

Drug Concentration (µg/ml)

Streptomycin 1.0, 4.0

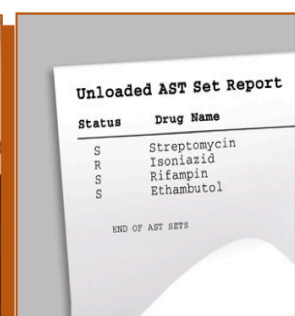
Isoniazide 0.1, 0.4

Rifampicin 1.0

Ethambutol 5.0, 7.5

Pyrazinamid 100.0

BD BACTEC™ MGIT™ 960 ANTIBIOGRAMME



With more on: GLI Mycobacteriology Laboratory Manual, First Ed 2014

<http://www.who.int/tb/laboratory/mycobacteriology-laboratory-manual.pdf>